

## **Anaerobic reactor and waste water treatment: Possibilities for energy generation in the pulp and paper industry**

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The issue of industrial and agricultural residues represents an unprecedented environmental challenge to humanity, in terms of their recovery, storage and treatment. They jeopardize the current spatial distribution of human activities and, in the longer term, mankind future in the planet. In the other hand, the growing need to reduce production costs, together with the also growing environmental awareness and corresponding public pressures, have favoured the search for and the effective use of new technologies to treat effluents, within the scope of a sustainable development.

One of such technologies has been the anaerobic digestion of residues, which is starting to be widely used due to its easy implementation and possibility to minimize the use of water and process inputs, together with the production of energy. It can be used to process agricultural, urban (sewage and waste) and industrial residues.

This paper discusses the perspectives of treating effluents through anaerobic digestion, as well as reports the experience of using an Upflow Anaerobic Sludge Blanket -UASB Reactor - in a paper producing plant, involving the conversion of organic matter into methane gas, to be burned in the plant boilers.

Finally, the paper industry thermal energy needs and the potential scope of anaerobic digestion to meet them is addressed in the brazilian pulp and paper industry.